

FRIEDMAN & BRUYA, INC.**ENVIRONMENTAL CHEMISTS**

Date of Report: January 14, 1994

Date Received: January 7, 1994

Project: 7238, Acid Tanks Heavy Mtls, PO# M32458

Date Samples Extracted: January 10, 1994

Date Extracts Analyzed: January 10, 1994

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES
FOR TOTAL METALS BY
INDUCTIVELY COUPLED PLASMA (ICP)
(METHOD 6010)**

**Samples Processed Using Method 3005
Results Reported as mg/L (ppm)**

<u>Sample ID</u>	<u>M32458A</u>	<u>M32458B</u>
Analyte:		
Arsenic	55	70
Cadmium	<1	<1
Chromium	11,000	17,000
Lead	53	37
Silver	<1	<1
Copper	9,800	2,500
Nickel	13,000	13,000
Zinc	86	160

FRIEDMAN & BRUYA, INC.**ENVIRONMENTAL CHEMISTS****Date of Report: January 14, 1994****Date Received: January 7, 1994****Project: 7238, Acid Tanks Heavy Mtls, PO# M32458****Date Samples Extracted: January 10, 1994****Date Extracts Analyzed: January 10, 1994****RESULTS FROM THE ANALYSIS OF WATER SAMPLES
FOR TOTAL METALS BY
INDUCTIVELY COUPLED PLASMA (ICP)
(METHOD 6010)****Samples Processed Using Method 3005****Results Reported as mg/L (ppm)****Quality Assurance**

<u>Sample ID</u>	<u>Blank</u>	<u>M32458B (Duplicate)</u>
Analyte:		
Arsenic	<1	73
Cadmium	<1	<1
Chromium	<1	17,000
Lead	<1	29
Silver	<1	<1
Copper	<1	2,800
Nickel	<1	13,900
Zinc	<1	160

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**RESULTS FROM THE ANALYSIS OF WATER SAMPLES
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INDUCTIVELY COUPLED PLASMA (ICP)
(METHOD 6010)****Samples Processed Using Method 3005**Results Reported as % Recovery
Quality Assurance

<u>Sample ID</u>	<u>M32458B Matrix Spike % Recovery</u>	<u>M32458B Matrix Spike Duplicate % Recovery</u>	<u>Spike Level</u>
Analyte:			
Arsenic	99%	105%	100
Cadmium	ai	ai	50
Chromium	120%	120%	50
Lead	140%	150%	100
Silver	140%	130%	20
Copper	ai	ai	50
Nickel	ai	ai	100
Zinc	ai	ai	50

ai The amount spiked was insufficient to give meaningful recovery data.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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(METHOD 6010)**

**Samples Processed Using Method 3005
Results Reported as % Recovery
Quality Assurance**

<u>Sample ID</u>	<u>Spike Blank</u> <u>% Recovery</u>	<u>Spike</u> <u>Level</u>
Analyte:		
Arsenic	101%	100
Cadmium	98%	50
Chromium	97%	50
Lead	109%	100
Silver	80%	20
Copper	110%	50
Nickel	98%	100
Zinc	97%	50

01 BTR. A
01.07.94
11:57

Send Report To: Alaskan Copper Works Contact Gerald Thompson
Company _____
Address 628 Hanson St
City, State, Zip Seattle WA 98134
Phone # (206) 623-5800 x218 Date 1-7-94

AKC-001337

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Andrew John Friedman
James E. Bruya, Ph.D.
(206) 285-8282

3008-B 16th Avenue West
Seattle, WA 98119
FAX: (206) 283-5044

January 14, 1994

DUPLICATE COPY

INVOICE #94ACU0114-1

Alaskan Copper Works
628 South Hanford
Seattle, WA 98134

RE: Project 7238, Acid Tanks Heavy Mtls, PO# M32458: Results of testing
requested by Gerry Thompson, Project Leader and submitted on January 7,
1994.

2 water samples analyzed for Total Metals
by Method 6010 @ \$105 per sample

\$105.00

Amount Due

\$ 105.00

FRIEDMAN & BRUYA, INC.

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(206) 285-8282

3008-B 16th Avenue West
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January 14, 1994

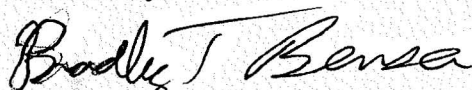
Gerry Thompson, Project Leader
Alaskan Copper Works
628 South Hanford
Seattle, WA 98134

Dear Mr. Thompson:

Enclosed are the results from the testing of material submitted on January 7, 1994 from Project 7238, Acid Tanks Heavy Mtls, PO# M32458.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,



Bradley T. Benson
Chemist

BTB/sao

Enclosures

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Andrew John Friedman
James E. Bruya, Ph.D.
(206) 285-8282

3008-B 16th Avenue West
Seattle, WA 98119
FAX: (206) 283-5044

January 21, 1994

Gerry Thompson, Project Leader
Alaskan Copper Works
628 South Hanford
Seattle, WA 98134

Dear Mr. Thompson:

Enclosed is an amended invoice for the results from the testing of material submitted on January 7, 1994 from Project 7238, Acid Tanks Heavy Mtls, PO# M32458. The original invoice had a total charge shown for only one sample instead for both that were analyzed.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,



Bradley T. Benson
Chemist

BTB/sao

Enclosures

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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James E. Bruya, Ph.D.
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Seattle, WA 98119
FAX: (206) 283-5044

January 14, 1994

AMENDED 01-21-94

DUPLICATE COPY

INVOICE #94ACU0114-1

Alaskan Copper Works
628 South Hanford
Seattle, WA 98134

RE: Project 7238, Acid Tanks Heavy Mtls, PO# M32458: Results of testing
requested by Gerry Thompson, Project Leader and submitted on January 7,
1994.

2 water samples analyzed for Total Metals
by Method 6010 @ \$105 per sample

\$210.00

Amount Due

\$ 210.00